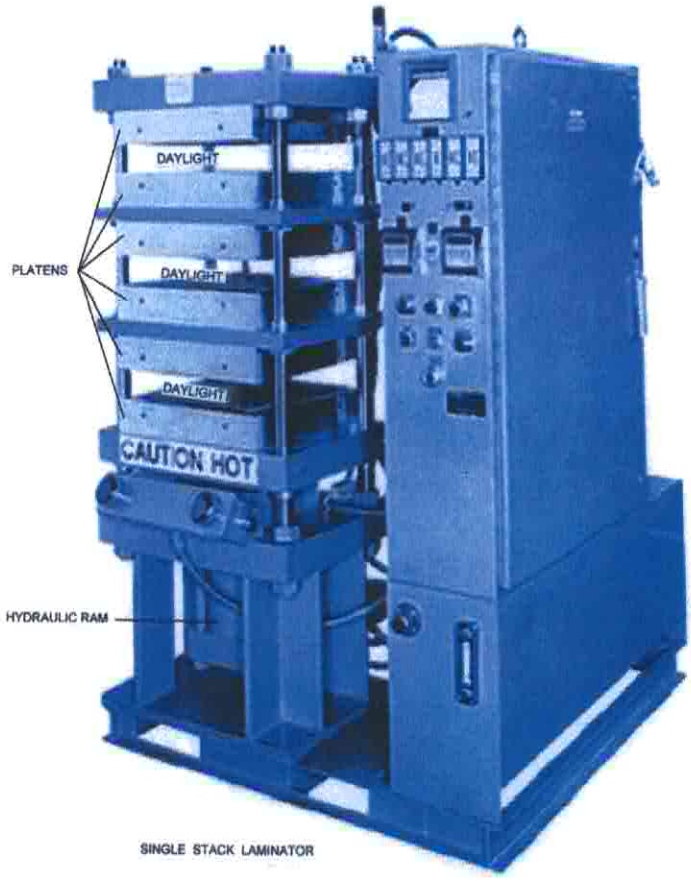
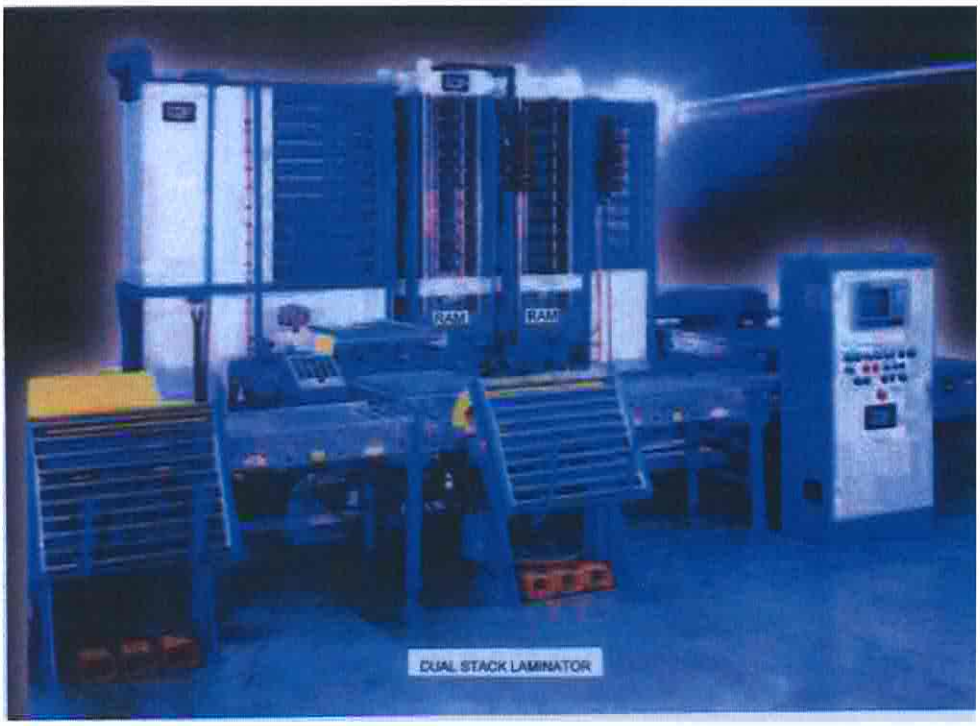


SINGLE STACK LAMINATOR



DUAL STACK LAMINATOR

c. Over a set period of time, varying temperatures and pressures are applied to the book in order to laminate the materials and make a finished contactless smart card. In my method, I make sure that the plastic in the book is heated so that when any substantial pressure is applied to the sensitive electronics contained within each card, they can be safely encapsulated within the plastic. The electronics at the center of a contactless card can be extremely fragile.

4. As background, the following explains how I came to appreciate the problems that are faced in laminating sensitive electronics into a plastic card using temperature and pressure. In early 1995, I was contacted by Motorola and asked to come visit their facility in San Jose, California to assist them in their production of an employee identification card to be used by Microsoft employees. I was told that Bill Sanko, a business acquaintance and friend of mine, had been in touch with Motorola and had suggested that I might be able to help them make such a card.

5. I visited the Motorola facility and was shown the laminating machine that they were using to make their identification cards. The laminator was actually designed to make printed circuit boards and not plastic cards. The laminator was a dual stack laminator. It had a separate ram (press) for the heating phase and one for the cooling phase.

6. As I came to learn once I was at the Motorola facility, the rams on their machine were designed to exert more pressure during the heating phase of the lamination cycle than during the cooling phase of the cycle. Also, because of the weight of the platens (about 450 pounds), substantial weight or pressure was exerted on the cards by merely closing the laminator, before the cards could be heated and the plastic softened. By closing each of the daylights or openings from the bottom of the

laminator to the top, additional weight was added for each of the platens onto the cards. The cards on the bottom daylight or opening had the greatest amount of weight or pressure exerted upon them before the lamination process could even be started. There was also a delay or dwell time between the two cycles. This meant that after the cards came out of the heating phase of the laminator, they had to sit with no heat and no pressure before they were able to go into the cooling phase of the machine.

7. These features of the Motorola laminator ultimately made it difficult for me to provide Motorola with a satisfactory yield of cards that worked. In order to activate the heat and subsequently maintain the heat on the platens, and ultimately the card material, the daylights or openings would have to be shut. The application of too much pressure from merely closing the laminator on the material in the bottom daylights or openings, and too much pressure during the heating phase of the lamination cycle did not enable me to obtain the yields that Motorola wanted. There were physical differences in the finished cards based upon which daylight or opening had been used to make the cards. The platens were warped, and there were differences in temperature and pressure between platens and between different lamination cycles. Also, Motorola provided me with electronics to laminate into the plastic cards that were thicker than the ISO card standards. ISO is an international standards organization. Certain types of plastic cards must meet ISO standards in order to be accepted. For example, a card must be a certain thickness in order to go into an ATM machine and to properly read the magnetic stripe that is on the card. The antenna that Motorola provided was much thicker than the ISO standards, as well as being thicker than the chip that sat inside the antenna. The antenna did to some extent act as a

buffer and provide the chip with some protection from the pressure being exerted upon the card when the platens were closed and additional pressure was applied during the heating cycle. Ultimately, I did make a number of cards at Motorola, but Motorola was unhappy with the yield that I obtained using their components and laminator. Motorola did not pay me the bonus provided by our consulting agreement, because they maintained that I did not satisfy the criteria for receiving a bonus. My last day at Motorola was April 5, 1995.

8. I continued to think about the problems I had encountered at Motorola, which had resulted in my inability to make a contactless smart card that satisfied their demands. Over the course of the next several months I came up with a new and different method that I believed would enable me to produce a contactless smart card that was smooth enough to accept dye sublimation printing, but also thin enough to satisfy ISO thickness standards. Because of the sequence of temperature and pressure that I used in my method, I was able to safely embed the sensitive electronics into the card without the use of any protective device around the electronics.

9. In October of 1995 my attorney at the time, Steve Haas, filed a provisional patent application on my method of manufacturing smart cards. I understand that the provisional application subsequently led to the patents that are the basis of this lawsuit.

10. In early 1996, I made a number of cards at a company that I had worked at for approximately 11 years, CSI (which was formerly known as 2B Systems) using the method that had been described in my provisional application. I made the cards on the single stack laminator that was at CSI. The cards were smooth enough to accept

dye sublimation printing, but also thin enough to satisfy ISO thickness standards. Also, I did not use any protective device for the sensitive electronics, inlays of Phillips electronics, inserted into the card.

11. As I indicated at my deposition, I had previously heard of the company called Oakwood Design. After I left 2B Systems, a company that I worked at from 1970 – 1981, the owner of 2B Systems (which had then changed its name to CSI), invested in the Oakwood company before it went into bankruptcy. CSI apparently had also purchased an Oakwood Design laminator, which later caught fire. I understand from seeing the document that one of the former principals of Oakwood Design, Richard Smith, has submitted a declaration stating that certain of the Oakwood materials attached to the declaration show the inventions in my patents. I have reviewed the Oakwood materials and I do not see any explanation of how to encapsulate electronics, as per my patent to make a contactless smart card. I also understand from seeing the document that one of Oberthur's employees, Barry Mosteller, has similarly attached Oakwood materials to his declaration, and is also claiming that the Oakwood materials attached show the inventions in my patents. The same problems also apply to the Oakwood materials attached to Mr. Mosteller's declaration. In each of their declarations they talk about one of the graphs from the Oakwood materials. I was asked at my deposition about the graph, and I had a hard time understanding the graph because it does not have any numbers or explain any of the abbreviations that are used. However, if I use the abbreviations and explanation provided by both Mr. Mosteller and Mr. Smith, it does not show my inventions. In fact, the graph shows the type of pressure and temperature that did not work at Motorola. The graph shown

in the Oakwood materials, appears to apply substantial pressure before the plastic is given the chance to heat up.

12. In my inventions, I heat the card material before applying substantial pressure. I do this in order to soften the plastic before the electronics are pressed into the plastic material. If I understand the way in which Mr. Mosteller and Mr. Smith have explained the Oakwood graph, it shows applying a first pressure (which can be called P1) before the plastic has been heated to a first temperature (T1) for a first time period. I know from my experience at Motorola, where I could not avoid putting substantial pressure on the card material before it had a chance to heat up, that making a card in the manner was problematic in terms of obtaining a satisfactory yield. In fact, my experience with these types of problems led me to come up with the different method that I use in my patents.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed on this 6 day of December, 2005, at Cleveland, Ohio.

Keith R. Leighton